

Comments and Response

RESPONSE TO COMMENTS ON “THE NATURE OF TIME AS A PUZZLE FOR NATURALISM”

My article was aimed at questioning the widespread belief that, to paraphrase Richard Dawkins, it is now possible to be an intellectually fulfilled naturalist. Human experience is so rich, I claimed, that any simple faith that “nature is all there is” should be subject to doubt. As an example, I focused on the antinomy between the received account of “frozen” time from the physics of relativity and the way time feels to persons to be “flowing.” I could not ask for a better summary of the problem than Russell gives in the opening paragraph of his comment. My interpretation of the situation is that the difference between the two faces of time is so vast that it can only be characterized as a mystery. I proposed that we need to understand the world as consisting of two realms, one described by deterministic natural science (in which time acts as if frozen) and the other the home of free action by persons (where time feels as if it flows). I followed this idea through its presentation by theologian Abraham Joshua Heschel, leading to his argument from the character of those two realms that belief in God is as reasonable as belief that there is a physical universe.

In my discussion of time, I criticized several authors for minimizing the mystery. Two of those authors have submitted thoughtful responses to my critique. I am grateful to have the opportunity to discuss their responses here.

In his comment, Prof. Tooley offers a concise and clear defense of his belief in the absolute character of simultaneity. The disagreement between us comes down, as many scientific controversies do, to the aesthetic judgment known as Occam’s Razor. My judgment, shared by most of my peers in physics, is that it is inexcusably inelegant to introduce an absolute standard of motion and rest that plays no role in the observable phenomena associated with motion and rest. Tooley disagrees. The reader should decide for herself.

My brief discussion of Russell’s thought did not do justice to the richness of his understanding, so I am especially glad to have the opportunity to engage with his contributions more deeply. Russell makes clear that there are two different arguments against flowing time; in addition to the argument from relativity that I featured in my article, there is the critique of flowing time by J. M. E. McTaggart. They are different enough that they need to be confronted separately; McTaggart’s argument questions how time can be pictured as flowing even by a single observer, while the argument from relativity questions time’s flow based on unavoidable disagreements between different observers about which events to count as happening “now.” Russell’s proposal of an “inhomogeneous temporal ontology” is aimed mainly at McTaggart’s argument.

But I am not sure how Russell’s inhomogeneous temporal ontology solves McTaggart’s problem. Is he saying that if it is the case that, for each moment along her worldline, an observer can treat events in her future light cone as not determined, then time flows?

And what is Russell teaching us in Figure 12.2 of his book, reproduced in his comment? One of McTaggart's concerns was that if time flows then it flows with respect to something else that functions as another kind of time. But then, does not that second kind of time need to flow and thus repeat the problem? Does Russell's figure solve this problem, or simply illustrate the mystery?

When Russell turns to explicit discussion of the simultaneity problem from relativity, he does not purport to contradict its argument against the existence of a global Now; instead, as he says, he celebrates the richness of relativity's multiple perspectives on time. That is, he accepts each observer's view of time's flow along her worldline (on the assumption that he has rescued the concept from McTaggart's critique) as equally valid, and thus embraces the collection of all possible observers' impressions of time's flow as the best understanding of time. This is a beautiful and intriguing concept. And it does fit with relativity, so much so that it sounds remarkably like Hermann Weyl's remark quoted in my article, "The objective world simply is, it does not happen. Only to the gaze of my consciousness, crawling along the [worldline] of my body, does a section of this world come to life as a fleeting image in space which continuously changes in time." But is this a flowing view of time, or a restatement of the mystery that we have two irreducibly different views of time, each true in its own realm?

Russell's position also does not sound very different from that of D. C. Williams in his 1951 article, "The Myth of Passage." Williams argued that relativity's four-dimensional spacetime was the appropriate view of reality. Furthermore, he claimed that an observer at any point on her worldline would perceive the world in a fashion indistinguishable from how Russell (or any of us) describe the feel of flowing time. "Let us hug to us as closely as we like that there is real succession, that rivers flow and winds blow, that things burn and burst, that men strive and guess and die. All this is the concrete stuff of [spacetime], the reality of serial happening, one event after another ..." (Williams 1951, 467). And yet, the title of his article makes clear that Williams thought that he had demonstrated that the flow of time was a myth.

Weyl and Williams share the belief that the puzzle of time enters when we consider what it feels like to be a person embedded in the material world, as described by relativity. Heschel, too, thought that human experience revealed the central aspect of existence.

One of Heschel's core beliefs was that our wonder at the mystery of existence is the most profound source of the need to turn to God in worship. In celebrating the "simultaneity richness" of relativity, Russell is engaging in precisely that worshipful attitude. Whether or not this constitutes a resolution of the philosophical and physical puzzles, it is a contribution to be welcomed.

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REFERENCE

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